April 24, 2001

Mr. William J. Rumpke
Rumpke of Indiana, LLC
10795 Hughes Road
Cincinnati, OH 45251-4598

Re: 071-13969
First Minor Revision to
FESOP 071-11615-00038

Dear Mr. Rumpke:

Rumpke of Indiana, LLC - Medora Sanitary Landfill was issued a permit on April 12, 2000 for a stationary municipal solid waste sanitary landfill and solidification process. A letter requesting changes to this permit was received on February 26, 2001. Pursuant to the provisions of 326 IAC 2-8-11.1 a minor permit revision to this permit is hereby approved as described in the attached Technical Support Document.

The modification consists of the addition of eight (8) passive flares, each with a maximum flow rate of 50 acfm to control the landfill gas and the addition of one (1) gasoline-fired water pump, rated at 8 HP, one (1) diesel-fired water pump, rated at 48 HP, and one (1) diesel-fired light plant, rated at 30 HP. The source also requested that the existing gasoline fuel usage limitation of 23,717 gallons per twelve (12) consecutive month period be changed to 11,276 gallons per twelve (12) consecutive month period to allow for the increased CO emissions from the flares while still maintaining source-wide CO emissions to less than 100 tons per year.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions
The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

3. Effective Date of the Permit
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 (Revocation), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.

Pursuant to 326 IAC 2-8-11.1, this permit shall be revised by incorporating the minor permit revision into the permit. All other conditions of the permit shall remain unchanged and in effect. Please attach a copy of this modification and the following revised permit pages to the front of the original permit.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter, please contact Trish Earls, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, or call at (973) 575-2555, ext. 3219, or dial (800) 451-6027, press 0 and ask for extension 3-6878.

Sincerely,

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality
Original Signed by Paul Dubenetzky

Attachments
TE/EVP
cc: File - Jackson County
U.S. EPA, Region V
Jackson County Health Department
Air Compliance Section Inspector - Joe Foyst
Compliance Data Section - Jerri Curless
Administrative and Development - Janet Mobley
Technical Support and Modeling - Michelle Boner

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) OFFICE OF AIR QUALITY

Rumpke of Indiana, LLC - Medora Sanitary Landfill
546 County Road 870 West
Medora, Indiana 47260

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F071-11615-00038	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: April 12, 2000

First Minor Permit Revision No.: 071-13969-00038	Pages Affected: 5-7, 25-27, 35
Issued by: Paul Dubenetzky, Branch Chief Office of Air Quality Original Signed by Paul Dubenetzky	Issuance Date: April 24, 2001

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary municipal solid waste sanitary landfill and solidification process.

Authorized individual:	William J. Rumpke
Source Address:	546 County Road 870 West, Medora, Indiana 47260
Mailing Address:	10795 Hughes Road, Cincinnati, Ohio 45251-4598
Phone Number:	513-851-0122, extension 3162
SIC Code:	4953
County Location:	Jackson
County Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD Rules;

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) one (1) municipal solid waste sanitary landfill generating landfill gas, with a maximum design capacity of 2,040,200 megagrams (Mg), with the landfill gas being controlled by eight (8) passive flares (ID Flare Nos. 1 through 8), each flare having a maximum landfill gas flow rate of 50 actual cubic feet per minute (acfm), and each flare exhausting through one (1) stack (ID Flare Stack Nos. 1 through 8);

(b) one (1) non-hazardous industrial and commercial liquid waste solidification process, located in a portable steel basin for mixing liquid waste, solid waste, and mixing agents, with a maximum throughput of 1,667 gallons per hour of liquid waste, 65 tons per hour of solidified waste, and 50 tons per hour of mixing agent; and

(c) mixing agent and solid waste material handling operations.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) Propane or liquified petroleum gas, or butane-fired combustion sources with heat input equal to or less than six million (6,000,000) Btu per hour including:

(1) one (1) new shop propane furnace, rated at 0.11 MMBtu per hour;
(2) one (1) new break room propane furnace, rated at 0.09 MMBtu per hour; and
(3) one (1) old shop propane furnace, rated at 0.11 MMBtu per hour.

(b) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) Btu per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight including:

(1) two (2) kerosene steam washers, each rated at 0.0231 MMBtu per hour.

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour including:

(1) three (3) gasoline-fired water pumps, each rated at 8 horsepower (HP);
(2) one (1) gasoline-fired generator, rated at 16 HP;
(3) one (1) gasoline-fired tire cutter, rated at 18 HP;
(4) one (1) gasoline-fired pressure washer, rated at 11 HP;
(5) one (1) diesel-fired water pump, rated at 50 HP;
(6) one (1) diesel-fired water pump, rated at 48 HP; and
(7) two (2) diesel-fired light plants, each rated at 30 HP.

(d) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons, which includes:

(1) one (1) 550 gallon gasoline storage tank.

(e) A petroleum fuel, other than gasoline, dispensing facility, having a storage capacity of less than or equal to 10,500 gallons, and dispensing less than or equal to 230,000 gallons per month, which includes:

(1) one (1) diesel on-road 2,000 gallon storage tank; and
(2) one (1) kerosene 250 gallon storage tank.

(f) VOC and HAP storage vessels storing lubricating oils, hydraulic oils, machining oils, and machining fluids including:

(1) one (1) 550 gallon hydraulic oil storage tank;
(2) one (1) 550 gallon motor oil storage tank; and
(3) one (1) 250 gallon waste motor oil storage tank.

(g) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment, including:

(1) maintenance light welding.

(h) Paved and unpaved roads and parking lots with public access.

(i) Other categories with emissions below insignificant thresholds:

(1) mixing agent storage piles;
(2) one (1) 1,000 gallon propane storage tank;
(3) one (1) 480,000 gallon leachate surface impoundment for leachate storage, with potential VOC emissions of 0.001 tons per year;
(4) one (1) 12,000 gallon diesel off-road storage tank, with potential VOC emissions

of 0.0097 ton per year;

(5) maintenance cold cleaner degreasers, with a maximum annual usage of 240 gallons of solvent, and potential VOC emissions of less than 15 pounds per day; and

(6) Maintenance drilling.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) for a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permit Conditions

(a) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) one (1) municipal solid waste sanitary landfill generating landfill gas, with a maximum design capacity of 2,040,200 megagrams (Mg), with the landfill gas being controlled by eight (8) passive flares (ID Flare Nos. 1 through 8), each flare having a maximum landfill gas flow rate of 50 actual cubic feet per minute (acfm), and each flare exhausting through one (1) stack (ID Flare Stack Nos. 1 through 8);

(b) one (1) non-hazardous industrial and commercial liquid waste solidification process, located in a portable steel basin for mixing liquid waste, solid waste, and mixing agents, with a maximum throughput of 1,667 gallons per hour of liquid waste, 65 tons per hour of solidified waste, and 50 tons per hour of mixing agent; and

(c) mixing agent and solid waste material handling operations.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 Municipal Solid Waste Landfill NSPS [326 IAC 12] [40 CFR 60.752, Subpart WWW]

(a) Pursuant to 40 CFR 60.752(a), this municipal solid waste landfill having a design capacity less than 2.5 million megagrams (Mg) by mass, was required to submit an initial design capacity report no later than June 10, 1996. The Permittee's initial design capacity report was submitted on June 13, 1996.

(b) If the design capacity of this landfill is increased to or above 2.5 million Mg, the following shall apply:

(1) Pursuant to 40 CFR 60.752(a)(1), an amended design capacity report shall be submitted to the Office of Air Quality (OAQ), pursuant to 40 CFR 60.757(a)(3), providing notification of any increase in the design capacity of the landfill, within ninety (90) days of an increase in the maximum design capacity of the landfill to or above 2.5 million Mg.

(2) Pursuant to 40 CFR 60.752(a)(2), the landfill shall comply with the provision of 40 CFR 60.752(b).

(3) The source shall be subject to 326 IAC 2-7 (Part 70 Permit Program) and shall apply for a Part 70 operating permit within twelve (12) months after this source becomes subject to Title V. The source may apply for a Part 70 operating permit and revocation of its FESOP under the provisions of 326 IAC 2-8-19 (Transition from a FESOP to a Part 70 Permit).

D.1.2 Hazardous Air Pollutants (HAPs) [326 IAC 2-8-4]

The throughput of liquid waste to the solidification process shall not exceed 6,240,000 gallons per twelve (12) consecutive month period, rolled on a monthly basis. The concentration of any single HAP, that is also a VOC, shall not exceed 200 milligrams (mg) per liter. This will limit source-wide potential single HAP emissions to less than 10 tons per year, and source-wide potential total HAP emissions to less than 25 tons per year.

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2(c)]

(a) The particulate matter (PM) emissions from the mixing agent loading and unloading operations shall not exceed 44.58 pounds per hour, when operating at a maximum process weight rate of 100,000 pounds per hour.

(b) The particulate matter (PM) emissions from each of the solidified waste and solid waste or refuse loading and unloading operations shall not exceed 47.05 pounds per hour, when each is operating at a maximum process weight rate of 130,000 pounds per hour.

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour; and P = process weight rate in tons per hour

Compliance Determination Requirements

D.1.4 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the HAP or PM limits specified in Conditions D.1.2 and D.1.3 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.5 Record Keeping Requirements

(a) To document compliance with Condition D.1.2, the Permittee shall maintain records of the throughput of liquid waste, in gallons, to the solidification process. The records shall be taken monthly and shall be complete and sufficient to establish compliance with the HAP emission limits established in Condition D.1.2.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.1.6 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.1.2 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:
Insignificant Activity:

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour including:

(1) three (3) gasoline-fired water pumps, each rated at 8 horsepower (HP);
(2) one (1) gasoline-fired generator, rated at 16 HP;
(3) one (1) gasoline-fired tire cutter, rated at 18 HP;
(4) one (1) gasoline-fired pressure washer, rated at 11 HP;

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Carbon Monoxide (CO) [326 IAC 2-8-4]

(a) The total gasoline usage in the three (3) gasoline-fired water pumps, the gasoline-fired generator, the gasoline-fired tire cutter, and the gasoline-fired pressure washer shall not exceed 11,276 gallons per twelve (12) consecutive month period, rolled on a monthly basis.

(b) The heating value of the gasoline shall not exceed 130,000 Btu per gallon.

This will limit source-wide CO emissions to less than 100 tons per year, therefore, 326 IAC 2-7 (Part 70 Permit Program) does not apply.

Compliance Determination Requirement

D.2.2 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the CO limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.3 Record Keeping Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall maintain records of the throughput of gasoline, in gallons, to the three (3) gasoline-fired water pumps, the gasoline-fired generator, the gasoline-fired tire cutter, and the gasoline-fired pressure washer and the heating value of the gasoline. The records shall be taken monthly and shall be complete and sufficient to establish compliance with the CO emission limit established in Condition D.2.1.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Rumpke of Indiana, LLC - Medora Sanitary Landfill
Source Address: 546 County Road 870 West, Medora, Indiana 47260
Mailing Address: 10795 Hughes Road, Cincinnati, Ohio 45251-4598
FESOP No.: F017-11615-00038
Facility: three (3) gasoline-fired water pumps, the gasoline-fired generator, the gasoline-fired tire cutter, and the gasoline-fired pressure washer
Parameter: throughput of gasoline, CO emissions
Limit: The total gasoline usage in the three (3) gasoline-fired water pumps, the gasoline-fired generator, the gasoline-fired tire cutter, and the gasoline-fired pressure washer shall not exceed 11,276 gallons per twelve (12) consecutive month period, rolled on a monthly basis. The heating value of the gasoline shall not exceed 130,000 Btu per gallon. This shall limit CO emissions to less than 100 tons per year.

YEAR: _____

Month	Gasoline Heating Value (Btu/gal)	Column 1	Column 2	Column 1 + Column 2
		Gasoline Throughput This Month (gallons)	Gasoline Throughput Previous 11 Months (gallons)	12 Month Total Gasoline Throughput (gallons)

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Minor Permit Revision to a Federally Enforceable State Operating Permit

Source Background and Description

Source Name:	**Rumpke of Indiana, LLC - Medora Sanitary Landfill**
Source Location:	**546 County Road 870 West, Medora, Indiana 47260**
County:	**Jackson**
SIC Code:	**4953**
Operation Permit No.:	**F071-11615-00038**
Operation Permit Issuance Date:	**April 12, 2000**
Permit Revision No.:	**071-13969-00038**
Permit Reviewer:	**Trish Earls/EVP**

The Office of Air Quality (OAQ) has reviewed a revision application from Rumpke of Indiana, LLC relating to a modification of the existing municipal solid waste sanitary landfill.

History

On February 26, 2001, Rumpke of Indiana, LLC submitted an application to the OAQ requesting to add the following equipment:

(a) eight (8) passive flares (ID Flare Nos. 1 through 8), for control of the landfill gas, each flare having a maximum landfill gas flow rate of 50 actual cubic feet per minute (acfm). Each flare exhausts through one (1) stack (ID Flare Stack Nos. 1 through 8).

The source also requested approval to add the following insignificant activities:

(a) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour including:

(1) one (1) gasoline-fired water pump, rated at 8 horsepower (HP);
(2) one (1) diesel-fired water pump, rated at 48 HP; and
(3) one (1) diesel-fired light plant, rated at 30 HP.

Rumpke of Indiana, LLC - Medora Sanitary Landfill was issued a FESOP on April 12, 2000. The source also requested that the existing gasoline fuel usage limitation of 23,717 gallons per twelve (12) consecutive month period be changed to 11,276 gallons per twelve (12) consecutive month period. This is because the installation of the passive flares will result in CO emissions due to combustion of the landfill gas, therefore, the limited CO emissions from gasoline combustion must be reduced accordingly. Also, the source would like to have the source-wide CO emission limit changed from 99 tons per year to 90 tons per year to allow for future modifications to be made without emissions exceeding 100 tons per year.

Existing Approvals

The source was issued a FESOP (F071-11615-00038) on April 12, 2000. The source has not received any other permits since then.

Enforcement Issue

There are no enforcement actions pending.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
Flare 1	Passive flare 1	10	0.5	50	1,400
Flare 2	Passive flare 2	10	0.5	50	1,400
Flare 3	Passive flare 3	10	0.5	50	1,400
Flare 4	Passive flare 4	10	0.5	50	1,400
Flare 5	Passive flare 5	10	0.5	50	1,400
Flare 6	Passive flare 6	10	0.5	50	1,400
Flare 7	Passive flare 7	10	0.5	50	1,400
Flare 8	Passive flare 8	10	0.5	50	1,400

Recommendation

The staff recommends to the Commissioner that the Minor Permit Revision be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on February 26, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (pages 1 through 6).

Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA."

Pollutant	Potential To Emit (tons/year)
PM	1.67
PM-10	1.67
SO_2	0.80
VOC	9.57
CO	57.08
NO_x	13.08

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's	Potential To Emit (tons/year)
Acrylonitrile	less than 10
Dichloromethane	less than 10
Perchloroethylene	less than 10
Toluene	less than 10
Xylene	less than 10
TOTAL	less than 25

Note: Due to the large number of different HAPs emitted by this modification, only the five HAPs with the highest potential emissions were shown here. For more detailed HAP emission calculations see page 4 Appendix A.

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of CO is equal to or greater than 25 tons per year and less than 100 tons per year and the potential to emit of NOx is equal to or greater than 10 tons per year and less than 25 tons per year. Therefore, the FESOP is being revised through a Minor Permit Revision pursuant to 326 IAC 2-8-11.1. This FESOP Minor Permit Revision will give the source approval to construct and operate the new emission units.

(b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Potential to Emit

The table below summarizes the total potential to emit, reflecting all limits, of the significant emission units.

	Limited Potential to Emit (tons/year)							
Process/facility	PM	PM-10	SO_2	VOC	CO***	NO_X	Single HAP	HAPs
Solidification Process	0.0	0.0	0.0	13.74	0.0	0.0	5.21	13.61
Sanitary Landfill	0.0	0.0	0.08	7.95	0.0	0.0	2.16	6.52
Passive Flares	0.89	0.89	0.0	0.0	39.42	2.10	0.0	0.0
Storage Piles*	3.88	1.36	0.0	0.0	0.0	0.0	0.0	0.0
Material Handling	13.74	6.50	0.0	0.0	0.0	0.0	0.0	0.0
Unpaved Roadways*	340.56	73.11	0.0	0.0	0.0	0.0	0.0	0.0
IC Engines*	1.59	1.59	1.48	3.96	50.58	22.64	negl.	negl.
Storage Tanks & Degreasing*	0.0	0.0	0.0	0.83	0.0	0.0	0.0	0.0
Total Emissions**	2.48	2.48	1.56	26.48	90.0	24.74	5.21	20.13

* These are Insignificant Activities.

** Since fugitive emissions are not counted toward PSD applicability, only the non-fugitive PM and PM-10 emissions were listed in the table. Potential PM-10 emissions, including both fugitive and non-fugitive emissions, are equal to 83.6 tons per year, therefore, the source is in compliance with 326 IAC 2-8.
***By limiting CO emissions in the IC engines through a fuel usage limitation, all other emissions from the engines are also limited.

County Attainment Status

The source is located in Jackson County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC and NO_X emissions are considered when evaluating the rule applicability relating to the ozone standards. Jackson County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

(a) The municipal solid waste landfill at this source is subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.750 through 60.759, Subpart WWW, Standards of Performance for Municipal Solid Waste Landfills), because the landfill was modified after May 30, 1991. However, the landfill has a design capacity less than 2.5 million megagrams (Mg), therefore, it is only subject to the requirements of 40 CFR 60.752(a), and is not subject to any of the other requirements of the subpart. Pursuant to 40 CFR 60.752(a), the source was required to submit an initial design capacity report to IDEM. Rumpke of Indiana, LLC submitted a design capacity report in 1996 to IDEM as required. The design capacity of this landfill is 2,040,200 Mg.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source is not subject to the requirements of this rule since potential non-fugitive emissions of all criteria pollutants is less than 250 tons per year. Although this landfill is subject to the NSPS, 40 CFR 60.750, Subpart WWW, it is only subject to the requirements of 40 CFR 60.752(a), which requires an initial design capacity report, and is exempt from all other requirements of the subpart. Therefore, since the landfill is not regulated by the standards of Subpart WWW, fugitive emissions are not counted toward PSD applicability.

326 IAC 2-6 (Emission Reporting)

This source is not subject to 326 IAC 2-6 (Emission Reporting), which would require the source to submit an annual emission statement. Pursuant to this rule, any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is enforceable. This source has accepted federally enforceable operation conditions which limit emissions of CO to below 100 tons per year. Potential emissions of SO_2, NOx, and VOC are below 100 tons per year. Also, the source is not one of the twenty-eight (28) listed sources and its potential to emit PM10 is less than one-hundred (100) tons per year including fugitive emissions, therefore, 326 IAC 2-6 does not apply.

326 IAC 2-8 (FESOP)

This source will limit the throughput of liquid waste to the solidification process to 6,240,000 gallons per twelve (12) consecutive month period, rolled on a monthly basis. This will limit potential single HAP emissions to less than 10 tons per year, and potential total HAP emissions to less than 25 tons per year. The source will also limit the total gasoline usage in the three (3) gasoline-fired water pumps, the gasoline-fired generator, the gasoline-fired tire cutter, and the gasoline-fired pressure washer to 11,276 gallons per twelve (12) consecutive month period, rolled on a monthly basis. The heating value of the gasoline shall not exceed 130,000 Btu per gallon. This will limit source-wide CO emissions to less than 100 tons per year. Therefore, the requirements of 326 IAC 2-7 (Part 70 Permit Program) do not apply.

326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

State Rule Applicability - Individual Facilities

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAP))

The operation of the eight (8) passive flares, the new diesel-fired water pump, the new diesel-fired light plant, and the new gasoline-fired water pump will each emit less than 10 tons per year of a single HAP or 25 tons per year of a combination of HAPs. Therefore, 326 IAC 2-4.1 does not apply.

326 IAC 8-1-6 (New Facilities, General Reduction Requirements)

This rule applies to facilities constructed after January 1, 1980, with potential VOC emissions greater than or equal to 25 tons per year. The eight (8) passive flares, the new diesel-fired water pump, the new diesel-fired light plant, and the new gasoline-fired water pump are not subject to this rule because each has potential VOC emissions less than 25 tons per year.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no compliance monitoring requirements applicable to this modification at this time.

Changes Proposed

The changes listed below have been made to the Federally Enforceable State Operating Permit (F071-11615-00038). It should also be noted that as of January 1, 2001, the Office of Air Management is now being referred to as the Office of Air Quality. Therefore, all references to the Office of Air Management have been revised to refer to the Office of Air Quality.

1. Section A.2 has been revised to include the new emission units. Section A.2 is revised as follows (additions in bold, deletions in strikeout):

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) one (1) municipal solid waste sanitary landfill generating landfill gas, with a maximum design capacity of 2,040,200 megagrams (Mg), with ~~passive venting of~~ the landfill gas **being controlled by eight (8) passive flares (ID Flare Nos. 1 through 8), each flare having a maximum landfill gas flow rate of 50 actual cubic feet per minute (acfm), and each flare exhausting through one (1) stack (ID Flare Stack Nos. 1 through 8);**

(b) one (1) non-hazardous industrial and commercial liquid waste solidification process, located in a portable steel basin for mixing liquid waste, solid waste, and mixing agents, with a maximum throughput of 1,667 gallons per hour of liquid waste, 65 tons per hour of solidified waste, and 50 tons per hour of mixing agent; and

(c) mixing agent and solid waste material handling operations.

2. Part (c) of section A.3 has been revised to include the new insignificant activities as follows:

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour including:

(1) ~~two (2)~~ **three (3)** gasoline-fired water pumps, each rated at 8 horsepower (HP);

(2) one (1) gasoline-fired generator, rated at 16 HP;
(3) one (1) gasoline-fired tire cutter, rated at 18 HP;
(4) one (1) gasoline-fired pressure washer, rated at 11 HP;
(5) one (1) diesel-fired water pump, rated at 50 HP; ~~and~~
(6) one (1) diesel-fired water pump, rated at 48 HP; and
~~(6)~~**(7)** ~~one (1)~~ **two (2)** diesel-fired light plant**s**, **each** rated at 30 HP.

3. The equipment description box in section D.1 has been revised to include the new flares as follows:

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) one (1) municipal solid waste sanitary landfill generating landfill gas, with a maximum design capacity of 2,040,200 megagrams (Mg), with ~~passive venting of~~ the landfill gas **being controlled by eight (8) passive flares (ID Flare Nos. 1 through 8), each flare having a maximum landfill gas flow rate of 50 actual cubic feet per minute (acfm), and each flare exhausting through one (1) stack (ID Flare Stack Nos. 1 through 8);**

(b) one (1) non-hazardous industrial and commercial liquid waste solidification process, located in a portable steel basin for mixing liquid waste, solid waste, and mixing agents, with a maximum throughput of 1,667 gallons per hour of liquid waste, 65 tons per hour of solidified waste, and 50 tons per hour of mixing agent; and

(c) mixing agent and solid waste material handling operations.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

4. Section D.2 has been revised to include the new insignificant activities. Also, condition D.2.1 has been revised to include the new gasoline-fired water pump and to change the fuel usage limitation from 23,717 gallons per year to 11,276 gallons per year. Condition D.2.3 has also been revised to include reference to the new gasoline-fired water pump. The revised section D.2 reads as follows:

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:
Insignificant Activity:

(c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 Btu/hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 Btu/hour including:

(1) ~~two (2)~~ **three (3)** gasoline-fired water pumps, each rated at 8 horsepower (HP);
(2) one (1) gasoline-fired generator, rated at 16 HP;
(3) one (1) gasoline-fired tire cutter, rated at 18 HP; and
(4) one (1) gasoline-fired pressure washer, rated at 11 HP.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Carbon Monoxide (CO) [326 IAC 2-8-4]

(a) The total gasoline usage in the ~~two (2)~~ **three (3)** gasoline-fired water pumps, the gasoline-fired generator, the gasoline-fired tire cutter, and the gasoline-fired pressure washer shall not exceed ~~23,717~~ **11,276** gallons per twelve (12) consecutive month period, rolled on a monthly basis.

(b) The heating value of the gasoline shall not exceed 130,000 Btu per gallon.

This will limit source-wide CO emissions to less than 100 tons per year, therefore, 326 IAC 2-7 (Part 70 Permit Program) does not apply.

Compliance Determination Requirement

D.2.2 Testing Requirements [326 IAC 2-8-5(a)(1), (4)][326 IAC 2-1.1-11]

The Permittee is not required to test this facility by this permit. However, IDEM may require compliance testing at any specific time when necessary to determine if the facility is in compliance. If testing is required by IDEM, compliance with the CO limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.3 Record Keeping Requirements

(a) To document compliance with Condition D.2.1, the Permittee shall maintain records of the throughput of gasoline, in gallons, to the ~~two (2)~~ **three (3)** gasoline-fired water pumps, the gasoline-fired generator, the gasoline-fired tire cutter, and the gasoline-fired pressure washer and the heating value of the gasoline. The records shall be taken monthly and shall be complete and sufficient to establish compliance with the CO emission limit established in Condition D.2.1.

(b) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.4 Reporting Requirements

A quarterly summary of the information to document compliance with Condition D.2.1 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported.

5. The FESOP Quarterly report form for the fuel usage limitation in the gasoline-fired combustion units has also been revised to include the new gasoline-fired water pump and to change the fuel usage limitation to 11,276 gallons per year.

Conclusion

This permit revision shall be subject to the conditions of the attached proposed Minor Permit Revision to a FESOP No. 071-13969-00038.

Appendix A: Emission Calculations Summary

Company Name: Rumpke of Indiana, LLC
Address City IN Zip: 546 County Road 870 West, Medora, Indiana 47260
Permit Revision No.: 071-13969
Plt ID: 071-00038
Reviewer: Trish Earls
Date: February 26, 2001

Potential Emissions (tons/year)

	Emissions Generating Activity					
Pollutant	Existing Emissions from Storage Piles, Material Handling and Unpaved Roadways	Existing Potential Emissions from Solidification Process	New Potential Uncontrolled Emissions from Sanitary Landfill	Potential Emissions from New Passive Flares	Insignificant Activities (IC Engines, Storage Tanks & Degreasing)	**TOTAL**
PM*	358.18	0.00	0.00	0.89	1.74	360.81
PM10	80.97	0.00	0.00	0.89	1.74	83.60
SO2	0.00	0.00	0.08	0.00	1.60	1.68
NOx	0.00	0.00	0.00	2.10	24.78	26.88
VOC	0.00	32.16	7.95	0.00	9.10	49.21
CO	0.00	0.00	0.00	39.42	137.29	176.71
total HAPs**	0.00	31.86	6.52	0.00	negl.	38.38
worst case single HAP***	0.00	12.19	2.16	0.00	negl.	12.19

Total emissions based on rated capacity at 8,760 hours/year.

Limited Emissions (tons/year)

	Emissions Generating Activity					
Pollutant	Existing Emissions from Storage Piles, Material Handling and Unpaved Roadways	Existing Limited Emissions from Solidification Process	New Limited Emissions from Sanitary Landfill	Limited Emissions from New Passive Flares	Insignificant Activities (IC Engines, Storage Tanks & Degreasing)	**TOTAL**
PM*	184.21	0.00	0.00	0.89	1.59	186.69
PM10	43.12	0.00	0.00	0.89	1.59	45.60
SO2	0.00	0.00	0.08	0.00	1.48	1.56
NOx	0.00	0.00	0.00	2.10	22.64	24.74
VOC	0.00	13.74	4.28	0.00	4.79	22.81
CO	0.00	0.00	0.00	39.42	50.58	90.00
total HAPs**	0.00	13.61	3.40	0.00	negl.	17.01
worst case single HAP***	0.00	5.21	1.12	0.00	negl.	5.21

Limited solidification process emissions based on limited liquid waste throughput of 6,240,000 gal/yr.
Unpaved roadway emissions are controlled by watering with a 50% control efficiency. Storage pile emissions are controlled by a synthetic tarp which covers the storage piles.
Limited Insignificant Activity emissions are based on a gasoline fuel usage limitation of 11,276 gallons per year for the gasoline-fired IC engines.

Appendix A: Emission Calculations
VOC Emissions

Company Name: Rumpke of Indiana, LLC
Address City IN Zip: 546 County Road 870 West, Medora, Indiana 47260
Permit Revision No.: 071-13969
Plt ID: 071-00038
Reviewer: Trish Earls
Date: February 26, 2001

Sanitary Landfill

Landfill Capacity: 2,040,200 Mg (from Design Capacity Report)
1999 Refuse Acceptance Rate: 176,513 tons/yr (Provided by Rumpke)
2000 Refuse Acceptance Rate: 226,339 tons/yr (Provided by Rumpke)

Lo: 100.0 m^3/Mg
k: 0.04 /yr
NMOC: 595.0 ppmv
Methane: 50% by volume

Pollutant	Potential Emissions*	
	(Mg/yr)	(Tons/yr)
Methane	4202.00	4631.82
NMOC	26.86	29.61
OC (Methane + NMOC)	4228.86	4661.43
Non-VOC Pollutants		
1,1,1-Trichloroethane	0.03	0.03
Acetone	0.21	0.23
Dichloromethane	0.64	0.71
Ethane	17.41	19.19
Methane	4202.00	4631.82
Perchloroethylene	0.32	0.35
Dichlorodifluoromethane	0.99	1.09
Chlorodifluoromethane	0.05	0.06
Total Non-VOC	**4221.65**	**4653.48**
Total VOC	**7.21**	**7.95**

Methodology:

* Maximum values based on USEPA Landfill Gas Emissions Model (version 2.01), AP-42 defaults for Lo, k, NMOC concentration for landfill sites with no co-disposal of industrial waste, and individual compound concentrations. The landfill model was updated to include the refuse acceptance rates for 1999 and 2000.

Maximum Potential Landfill Gas Fugitive Emissions Summary

Pollutant	Potential Emissions* (tons/yr)
Methane	2529.42
NMOC	15.61
VOC	4.20

* These emissions represent fugitive emissions calculated as (potential uncontrolled landfill gas emissions - portion of landfill gas controlled by passive flares (see Appendix A, page 3 of 6 for controlled landfill gas calculation))

Appendix A: Emission Calculations
Emissions from Landfill with Passive Flares as Control

Company Name: Rumpke of Indiana, LLC
Address City IN Zip: 546 County Road 870 West, Medora, Indiana 47260
Permit Revision No.: 071-13969
Plt ID: 071-00038
Reviewer: Trish Earls
Date: February 26, 2001

Total Number of Flares:	8	
Maximum Flare Design Flow (scfm):	50	Data provided by LFG Specialties, Inc. (vendor).
Minimum LFG Temperature (degrees F):	30	Data provided by LFG Specialties, Inc. (vendor). Minimum temperature used to obtain worst-case SO2 emissions.
ximum Total Landfill Gas Processed Through 8 Flares (scf/yr):	210,240,000	Based on 8760 hours/yr of operation
Total Landfill Gas Methane Content (%):	50.00%	NSPS Subpart WWW default value
Total Methane Gas Flared (scf/yr):	105,120,000	Based on 8760 hours/yr of operation
Flare Destruction Efficiency (%)	98.00%	Provided by LFG Specialties, Inc.

Emissions Calculations

Uncontrolled Methane Emissions (tons/yr)	2102.40	Calculated using a density of 0.04 lb/cubic foot; calculated from US EPA Landfill Model.
Controlled Methane Emissions (tons/yr)	42.05	Based on flare destruction efficiency of 98%.
Uncontrolled VOC Emissions (tons/yr)	3.75	generated from landfill * potential VOC emissions from landfill.
Controlled VOC Emissions (tons/yr)	0.08	Based on flare destruction efficiency of 98%.
Uncontrolled NMOC Emissions (tons/yr)	14.00	generated from landfill * potential NMOC emissions from landfill.
Controlled NMOC Emissions (tons/yr)	0.28	Based on flare destruction efficiency of 98%.
Molecular Weight of SO2 (expressed as sulfur) (g)	32.06	
Default conc. of Total Reduced Sulfur Compounds as Sulfur (ppmv)	46.9	Reference: AP-42, p. 2.4-8 (default value since no site specific value is available).
Emission Rate of Reduced Sulfur Compounds as Sulfur from Landfill (cu.m/yr)	254.28	Reference: AP-42, Sect. 2.4, Equation 3, p. 2.4-5 (11/98).
Uncontrolled Mass Emission Rate of Reduced Sulfur Compounds as Sulfur (tons/yr)	0.04	Reference: AP-42, Sect. 2.4, Equation 4, p. 2.4-5 (11/98).
Uncontrolled SO2 Emission Rate (tons/yr)	0.08	Based on ratio of molecular weight of SO2 to the molecular weight of Sulfur of 2:1.

Appendix A: Emission Calculations
HAP Emissions from Landfill

Company Name: Rumpke of Indiana, LLC
Address City IN Zip: 546 County Road 870 West, Medora, Indiana 47260
Permit Revision No.: 071-13969
Plt ID: 071-00038
Reviewer: Trish Earls
Date: February 26, 2001

Sanitary Landfill

Landfill Capacity: 2,040,200 Mg (from Design Capacity Report)
1999 Refuse Acceptance Rate: 176,513 tons/yr (Provided by Rumpke)
2000 Refuse Acceptance Rate: 226,339 tons/yr (Provided by Rumpke)

Lo: 100.0 m^3/Mg
k: 0.04 /yr
NMOC: 595.0 ppmv
Methane: 50% by volume

Pollutant	Potential Uncontrolled Emissions		Maximum Potential Fugitive Emissions (tons/yr)	Maximum Potential Controlled Emissions (tons/yr)
	(Mg/yr)	(Tons/yr)		
1,1,1-Trichloroethane	0.03	0.03	0.02	2.6E-04
1,1,2,2-Tetrachloroethane	0.10	0.11	0.06	1.1E-03
1,1,2-Trichloroethane	0.01	0.01	4.0E-03	8.2E-05
1,1-Dichloroethane	0.13	0.14	0.07	1.4E-03
1,1-Dichloroethene	0.01	0.01	0.01	1.9E-05
1,2-Dichloroethane	0.02	0.02	0.01	2.9E-04
1,2-Dichloropropane	0.01	0.01	0.01	4.6E-05
Acrylonitrile	0.33	0.36	0.19	3.5E-03
Benzene	0.08	0.09	0.05	8.1E-04
Carbon Disulfide	0.02	0.03	0.01	3.3E-04
Carbon Tetrachloride	3.3E-03	3.7E-03	0.00	7.3E-05
Carbonyl Sulfide	0.02	0.02	0.01	2.4E-04
Chlorobenzene	0.02	0.02	0.01	1.4E-04
Chloroethane	0.05	0.06	0.03	5.0E-04
Chloroform	1.2E-03	1.4E-03	0.00	2.7E-05
Chloromethane	0.03	0.04	0.02	3.4E-04
Dichlorobenzene	0.02	0.02	0.01	1.7E-04
Dichloromethane	0.66	0.73	0.37	7.2E-03
Ethylbenzene	0.26	0.29	0.15	2.7E-03
Ethylene Dibromide	1.0E-04	1.1E-04	0.00	2.2E-06
Hexane	0.31	0.34	0.17	3.5E-03
Mercury	0.01	0.01	0.01	2.0E-05
Methyl Ethyl Ketone	0.28	0.31	0.16	3.0E-03
Methyl Isobutyl Ketone	0.07	0.08	0.04	7.4E-04
Perchloroethylene	0.33	0.36	0.19	3.5E-03
Toluene	1.96	2.16	1.10	2.1E-02
Trichloroethene	0.20	0.22	0.11	2.3E-03
Vinyl Chloride	0.25	0.28	0.14	2.8E-03
Xylene	0.69	0.76	0.39	7.4E-03
Total HAP	**5.91**	**6.52**	**3.34**	**0.06**

Methodology:

* Maximum values based on USEPA Landfill Gas Emissions Model (version 2.01), AP-42 defaults for Lo, k, NMOC concentration for landfill sites with no co-disposal of industrial waste, and individual compound concentrations.

Appendix A: Emission Calculations
Emissions from Passive Flares

Company Name: Rumpke of Indiana, LLC
Address City IN Zip: 546 County Road 870 West, Medora, Indiana 47260
Permit Revision No.: 071-13969
Plt ID: 071-00038
Reviewer: Trish Earls
Date: February 26, 2001

Passive Flares

Total Number of Flares:	8	
Maximum Flare Design Flow (scfm):	50	Data provided by LFG Specialties, Inc. (vendor).
Minimum LFG Temperature (degrees F):	30	Data provided by LFG Specialties, Inc. (vendor). Minimum temperature used to obtain worst-case SO2 emissions.
aximum Total Landfill Gas Processed Through 8 Flares (scf/yr):	210,240,000	Based on 8760 hours/yr of operation
Total Landfill Gas Methane Content (%):	50.00%	NSPS Subpart WWW default value
Total Methane Gas Flared (scf/yr):	105,120,000	Based on 8760 hours/yr of operation
Flare Destruction Efficiency (%)	98.00%	Provided by LFG Specialties, Inc.

Emissions Calculations

NOx Emission Factor (lb/mm dscf Methane)	40	Reference: AP-42, Table 2.4-5 (11/98), p. 2.4-15.
CO Emission Factor (lb/mm dscf Methane)	750	Reference: AP-42, Table 2.4-5 (11/98), p. 2.4-15.
PM-10 Emission Factor (lb/mm dscf Methane)	17	Reference: AP-42, Table 2.4-5 (11/98), p. 2.4-15.
Potential NOx Emissions (tons/yr)	**2.10**	
Potential CO Emissions (tons/yr)	**39.42**	
Potential PM-10 Emissions (tons/yr)	**0.89**	

Appendix A: Emission Calculations
Internal Combustion Engines
Insignificant Activities

Company Name: Rumpke of Indiana, LLC
Address City IN Zip: 546 County Road 870 West, Medora, Indiana 47260
Permit Revision No.: 071-13969
Plt ID: 071-00038
Reviewer: Trish Earls
Date: February 26, 2001

A. Emissions calculated based on output rating (hp) for units firing diesel fuel

Heat Input Capacity Horsepower (hp)	Potential Throughput hp-hr/yr
78.0	683280.0

Heat Input Capacity includes: one (1) 48 hp diesel-fired water pump and one (1) 30 hp diesel-fired light plant.

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0022	0.0022	0.0021	0.0310	0.0025	0.0067
Potential Emissions in tons/yr	0.75	0.75	0.70	10.59	0.86	2.28

B. Emissions calculated based on output rating (hp) for units firing gasoline

Heat Input Capacity Horsepower (hp)	Potential Throughput hp-hr/yr
8.0	70080.0

Heat Input Capacity includes: one (1) 8 hp gasoline-fired water pump.

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	0.0006	0.0110	0.0216	0.4390
Emission Factor in lb/MMBtu	0.1000	0.1000	0.0840	1.6300	3.0300	62.7000
Potential Emissions in tons/yr	0.03	0.03	0.02	0.39	0.76	15.38

Methodology

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2
Potential Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.

B. Emissions calculated based on output rating (hp) for units firing gasoline - Source-wide limited emissions based on revised fuel throughput limit

Heat Input Capacity Horsepower (hp)	Potential Throughput hp-hr/yr	Limited Fuel Throughput gal/yr
69.0	604440.0	11276.0

Heat Input Capacity includes: three (3) 8 hp gasoline-fired water pumps, one (1) 16 hp gasoline-fired generator, one (1) 18 hp gasoline-fired tire cutter, and one (1) 11 hp gasoline-fired pressure washer.

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/hp-hr	0.0007	0.0007	0.0006	0.0110	0.0216	0.4390
Emission Factor in lb/MMBtu	0.1000	0.1000	0.0840	1.6300	3.0300	62.7000
Potential Emissions in tons/yr	0.22	0.22	0.18	3.32	6.53	132.67
Limited Emissions in tons/yr	0.07	0.07	0.06	1.19	2.22	45.96

Note: Limited fuel throughput is based on a gasoline heating value of 130,000 Btu/gal based on USEPA's AP-42. This will limit source-wide CO emissions to less than 100 tons per year to avoid the requirements of 326 IAC 2-7.

Methodology

Potential Througput (hp-hr/yr) = hp * 8760 hr/yr

Emission Factors are from AP42 (Supplement B 10/96), Table 3.3-2
Potential Emissions (tons/yr) = [Potential Throughput (hp-hr/yr) x Emission Factor (lb/hp-hr)] / (2,000 lb/ton)
Limited Emissions (tons/yr) = [Fuel input rate (gal/yr) x 0.13 MMBtu/gal x Emission Factor (lb/MMBtu)] / (2,000 lb/ton)
*PM emission factors are assumed to be equivalent to PM10 emission factors. No information was given regarding which method was used to determine the factor or the fraction of PM10 which is condensable.